REMARKS

Reconsideration of the present application in view of the above amendments and the following remarks is respectfully requested.

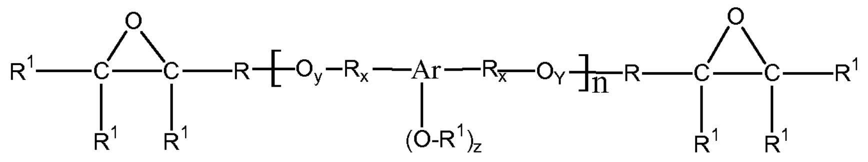
1. STATUS OF THE CLAIMS

Claims 1 and 6 – 15 are pending. Claims 2 – 5 and 16 – 45 have been cancelled.

Claim 1 has been amended to include the requirement that the polymerizable vinyl ester is present in the composition in amounts of from about 70 pbwa to about 95 pbwa. Support for this amendment is found in the present specification at page 2, lines 37 – 40. No new matter has been added.

2. THE CLAIMED INVENTION

The claimed invention is directed to a curable adhesive composition for anchoring materials in or to concrete or masonry that comprises, in part, a polymerizable vinyl ester is present in the composition in amounts of from about 70 pbwa to about 95 pbwa. The polymerizable vinyl ester is formed from the reaction of an epoxy compound and a compound containing an ethylenically unsaturated group (e.g., carboxylic acid, anhydride, alcohol, etc.), wherein the epoxy compound corresponds to the formula:



wherein

Ar is substituted or unsubstituted aryl,

R is substituted or unsubstituted divalent radical derived from alkyl, oxyalkyl, arylalkyl, or oxyalkylaryl, alkyl or arylalkyl,

R^1 is independently H or R,

for each R_x, x is independently 0 or 1,

for each O_y, y is independently 0 or 1, provided that x and y are not both zero,

for each $(O\text{-}R^1)_z$, z is independently 0 to 4, and

n is from 1 to 5.

Applicants have found that when this particular type of polymerizable vinyl ester is combined with a styrene-free aliphatic vinyl or aromatic vinyl diluent in the specified amounts, the resulting curable adhesive possess unexpectedly superior properties compared to other known curable adhesives. The superior properties include low toxicity and strong adhesive bonds even in high temperature conditions. Those features are highly desirable in construction and engineering, especially in the situations where adhesives could be exposed to high temperature conditions.

3. REJECTIONS

Claims 1 and 6 – 15 have been rejected under 35 U.S.C. § 103(a) based on European Patent No. 199,671 (EP '671) and Japanese Patent No. 2001-89716 (JP '716) in view of U.S. Patent No. 4,729,696 to Goto et al. (Goto) and further in view of U.S. Patent No. 5,891,942 to Parish et al. (Parish).

4. THE CLAIMED SUBJECT MATTER IS PATENTABLE

(A) EP '671 Does Not Render Appellants' Claims Unpatentable

EP ‘671 discloses an adhesive composition comprising polymerizable epoxy resin produced by the bisphenol A epoxide and methacrylic acid, a reactive thinner selected from styrene or divinyl benzene, a curing agent, a filler, and a catalyst.

Applicants respectfully submit that EP ‘671 does not disclose adhesive compositions as now claimed. Moreover, the compositions of the invention as now claimed (for example, see claims 13 – 15) have improved pull-out performance, as established by Appellants’ data on pages 20-22 of Appellants’ specification. The EP ‘671 disclosure does not teach or suggest that the compositions disclosed therein would have desirable pull-out performance under such conditions.

(B) JP ‘716 Does Not Render Appellants’ Claims Unpatentable

JP ‘716 discloses, generally, adhesive compositions comprising a polyfunctional monomer (containing multiple double bonds) such as epoxy acrylate produced from the reaction of bisphenol resin, a monofunctional monomer (containing one double bond), a thermoplastic copolymer (a random copolymer of styrene-methylmethacrylate), which is soluble in the monofunctional monomer, an accelerator and a curing agent.

Applicants respectfully submit that JP ‘716 does not disclose or suggest any alphatic vinyl, diene, or vinyl toluene as a reactive diluent, as is specified in Appellants’ claims. Likewise, Appellants’ compositions have desirable pull-out performance(for example, see claims 13 – 15), and JP ‘716 does not establish a reasonable expectation that its compositions would have such desirable performance. Accordingly, this reference cannot render Appellant’s claims obvious.

In brief, JP '716 teaches adhesive compositions quite different from the Appellants' compositions.

(C) Goto Does Not Overcome the Deficiencies of EP '671 or JP '716

Goto teaches a two-chamber cartridge containing an adhesive composition comprising an epoxy resin (such as bisphenol A epoxide), an organic acid (such as acrylic acid), a curing agent, an optional accelerator, and an optional monomer such as styrene or vinyl toluene. Goto also discloses that the epoxy resin is present in an amount of 40 to 100 parts by weight, which is outside Appellants' range.

(D) Parish Adds Nothing to EP '671 or JP '716

Parish discloses sprayable coating compositions comprising a resin system, a multifunctional acrylate, a monofunctional acrylate, an accelerator and a curing agent. Parish's resin system consists of a resin (such as bisphenol) and a reactive diluent (such as styrene or vinyl toluene). Parish discloses that the resin reacts with the reactive diluent, the multifunctional acrylate, and the monofunctional acrylate at the same time in curing.

Parish does not teach specifically Appellants' claimed polymerizable vinyl ester. In fact, Parish does not disclose any specific chemical structures for its resin, except to say simply they are epoxy.

Further, Parish does not teach specifically the amount of the polymerizable resin that may be present in the disclosed compositions. Furthermore, because the Parish compositions are coatings, Parish does not mention or suggest at all the particular properties of Appellants' adhesives, such as strong pull-out performance. In fact, there is no basis to expect that coating compositions would even be acceptable for their intended purpose if they were formulated to achieve high pullout performance. Because Parish discloses very little compositionally, among other things, there is nothing in Parish or in either of the primary references cited by the Examiner (or Goto) to make a proper combination of Parish with any one or more of those other references.

CONCLUSION

In view of the proposed claim amendments and the arguments presented above, the present application is believed to be in condition for allowance and an early notice thereof is solicited. The Office is invited to contact the undersigned counsel in order to further the prosecution of this application in any way.

Respectfully submitted,

/Joseph F. Posillico/
Joseph F. Posillico
Registration No. 32,290

FOX ROTHSCHILD LLP
2000 Market Street, 20th Fl.
Philadelphia, PA 19103
Telephone: (215) 299-2902
Facsimile: (215) 299-2150